

IN THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 28. This sheet, which includes Fig. 28, replaces the original sheet including Fig. 28.

Attachment: Replacement Sheet

REMARKS

Favorable reconsideration of this application is respectfully requested.

Replacement Figure 28 is submitted herein in which the originally recited term “VOOT” is now properly changed to --ROOT--.

The Abstract and the specification are amended to address the objections noted on pages 2-3 of the Office Action.

Claims 16-27 are pending in this application. Claims 1-15 are canceled herein without prejudice and new claims 16-27 are added for examination. Applicants respectfully submit new claims 16-27 are clear from the original disclosure, including the original claims, and thus do not add new matter.

Claims 1-15 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1-4, 8-12, and 14 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent 3,959,966 to Pearce et al. (herein “Pearce”). Claims 1-4, 8-9, 11, and 13 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent 3,843,279 to Crossley et al. (herein “Crossley”). Claims 1-3, 8-10, 12, and 15 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Application Publication 2002/0182067 to Tiemann. Claims 1-4, 6-10, and 12 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. patent 6,851,924 to Mazzola et al. (herein “Mazzola”). Claim 5 was noted as allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph and to include all of the limitations of its base claim and any intervening claims. Applicants gratefully acknowledge that early indication of the allowable subject matter in claim 5.

Addressing now the rejection of claims 1-15 under 35 U.S.C. § 112, second paragraph, that rejection is traversed by the present response.

Claims 1-15 are herein canceled without prejudice and new claims 16-27 are added for examination. New claims 16-27 have been written to avoid the language noted as unclear in original claims 1-15.

New independent claim 16 does not recite a “coating portion” but instead recites a --cover portion-- and specifics thereof. That subject matter is believed to be clear from the original specification and to use accepted meanings of that term.

New dependent claim 20, which is similar to original dependent claim 7, clarifies the language therein with respect to the fan-like configuration.

New dependent claims 25 and 26, which are similar to original dependent claims 12 and 13, respectively, clarify the inclination of the surfaces.

In view of the presently submitted claims, applicants respectfully submit the outstanding rejection to claims 1-15 under 35 U.S.C. § 112, second paragraph, is overcome by the present response.

Addressing the above-noted prior art rejections, applicants respectfully submit the claims as currently written distinguish over the applied art. In that respect new independent claim 16 recites a turbine blade structure including a plurality of blade bodies provided in series in a circumferential direction, and a wall surface connecting the blade bodies so that connected portions of the wall surface and blade bodies form corner portions, respectively.

New independent claim 16 now also further recites:

a cover portion disposed only at a portion near a front edge portion of each of the blade bodies corresponding to a working fluid in the corner portions formed to the connected portion, extending to an upstream side of a flow of the working fluid and formed as a protruded portion having a concave curved surface toward a height direction of the front edge portion of the blade body from a base portion on the upstream side of the flow of the working fluid.

Particularly the above-noted features of the “cover portion” are believed to be neither taught nor suggested by any of the applied art.

Addressing first the applied art to Pearce, the outstanding rejection cites Pearce to disclose a plurality of blades 13 provided in series on a wall surface 17, 32. Applicants initially note the outstanding rejection does not actually point to any specific element in Pearce as corresponding to the previously recited “corner portion”, or that would correspond to the now clarified “cover portion”. Applicants respectfully submit Pearce does not meet the limitations of new independent claim 16 as written as no portion in Pearce is a “cover portion disposed only at a portion near a front edge portion of each of the blade bodies corresponding to a working fluid in the corner portions formed to the connection portion”. Applicants further submit Pearce does not disclose or suggest that cover portion extending to an upstream side of a flow of the working fluid and forming a protruded portion having a concave portion toward the height direction of the front edge portion of the blade body from a base portion on the upstream side of the flow of the working fluid.

Thereby, applicants respectfully submit new independent claim 16, and the claims dependent therefrom, patentably distinguish over Pearce.

With respect to the rejection based on Crossley, the outstanding Office Action cites Crossley to disclose a plurality of blades 14 provided in series on a wall surface 22, 24.

Applicants also point out the outstanding Office Action does not point to any elements in Crossley that would correspond to the claimed previously recited “corner portion”, or that would now correspond to the now clarified “cover portion”. In that respect applicants respectfully submit Crossley also does not disclose or suggest specifics of the “cover portion” as now clarified in the claims.

Addressing now the rejections based on Tiemann, the outstanding rejection cites Tiemann to disclose a plurality of blades 11a provided in series on a wall surface 27, 47. The

rejection based on Tiemann also does not point to any element in Tiemann corresponding to the previously claimed “corner portion”, or that would now correspond to the now claimed “cover portion”. In that respect applicants also submit Tiemann does not disclose or suggest any element that meets the features of the newly claimed “cover portion”.

Addressing now the outstanding rejection based on Mazzola, the outstanding rejection cites Mazzola to disclose a plurality of blades 14 provided in series on a wall surface 16, 18, and a corner portion between the wall surface and a front edge portion 28, to which a working fluid is provided with a coating/fillet portion 44 that extends to an upstream side of a flow of the working fluid.

In reply to that grounds for rejection, which actually points to an element 44 in Mazzola as corresponding to the previously recited “corner portion”, applicants respectfully submit element 44 in Mazzola does not correspond to the now claimed “cover portion”.

More particularly, the element 44 in Mazzola is not a “cover portion disposed **only** at a portion near a front edge portion of each of the blade bodies corresponding to a working fluid and the corner portions formed to the connected portion” (emphasis added). The noted portion 44 in Mazzola is formed throughout the bottom of the blade 14.

Further, applicants note the noted portion 44 in Mazzola does not extend to an “upstream side of a flow of the working fluid”, as also now recited in new independent claim 16.

Thereby, applicants respectfully submit Mazzola also does not disclose or suggest the now claimed “cover portion”.

In view of the foregoing comments, applicants respectfully submit independent claim 16 as currently written positively recites features neither taught nor suggested by any of the previously applied art to Pearce, Crossley, Tiemann, or Mazzola, and thus new independent

claim 16, and claims 17-27 dependent therefrom, patentably distinguish over those previously applied references.

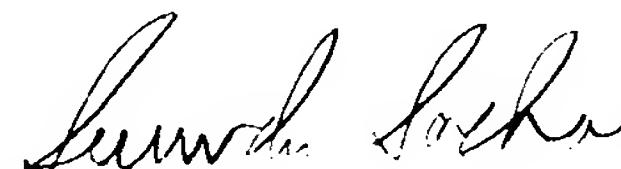
As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 06/04)



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Surinder Sachar
Registration No. 34,423

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